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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 10/821,228
Filing Date: April 08, 2004
Appellant(s): DETTINGER ET AL.

Gero G. McClellan
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed October 2, 2007 appealing from the Office action mailed April 2, 2007.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

The following is a listing of the evidence (e.g., patents, publications, Official Notice, and admitted prior art) relied upon in the rejection of claims under appeal.

U.S. Patent 5,899,988 to Depledge et al., published May 4, 1999 and filed February 28, 1997.

U.S. PG Publication 2004/0220927 to Murthy et al., published November 4, 2004 and filed May 1, 2003.

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-3, 5-7, 9-12, 14-16, 18-21, 23-25, 27-30, 32-34, 36-38, 40-42, and 44 are rejected under 35 U.S.C. 102(b) as being anticipated by Depledge et al (U.S. 5,899,988).

As to independent claim 1, Depledge clearly teaches a computer-implemented method of logically representing relationships between data elements *(Rows of data, Fig. 1)* defined according to a first physical representation of data *(100, Fig. 1) (see column 2, lines 24-36; Note that within the Table 100 there are two relationships being defined. First, Customer # is being related to Location. Second, Customer # is being related to Type.)*, comprising: providing a logical representation of the data *("1" or "0" in 206, Fig. 2A)*, the logical representation *("1" or "0" in 206, Fig. 2A)* abstractly describing a second physical representation of the data *(200, Fig. 2A)*, wherein the second physical representation of the data *(200)* is generated from the first physical representation of the data *(100) (see column 2, lines 50-57; Note that the entry 206 in*

Fig. 2A indicates which bits have a location of North. In this example bit 2 (202) and bit 6 (204) have a "1" indicating that customer 102 and 106 in the physical representation (100) have a location of North.).

Depledge further teaches on the basis of the relationships between the data elements *(Rows of data, Fig. 1)* defined according to the first physical representation of the data *(100)*, determining corresponding relationships between corresponding data structures defined according to the second physical representation of the data *(200) (see Figs. 1 and 2A; Note that a logical relationship is determined based on the data elements located in the first physical relationship (100). The data structures in figures 1 and 2A are tables consisting of rows and columns. The data structure in Figure 2A is defined by the use of bits "1" and "0", which represent the relationship between, in this case, a customer # and a location.).*

Depledge further teaches generating logical relationships abstractly describing the determined corresponding relationships, each logical relationship defining a path between data structures of the second physical representation *(200) (see Figs. 1 and 2A; Note that a logical relationship is determined based on the data elements located in the first physical relationship (100). The data structures in figures 1 and 2A are tables consisting of rows and columns. The data structure in Figure 2A is defined by the use of bits "1" and "0", which represent the relationship between, in this case, a customer # and a location.).*

Depledge also teaches associating the generated logical relationships *(202 and 204, Fig. 2A)* with the logical representation of the data *(200, Fig. 2A) (see column 2, lines 50-57; Note that the entry 206 in Fig. 2A indicates which bits have a location of North. In this example bit 2*

(202) and bit 6 (204) have a "1" indicating that customer 102 and 106 in the physical representation (100) have a location of North.).

As to dependent claim 2, Depledge teaches the limitation where the logical representation comprises a plurality of logical field specifications *(see Fig. 2A; Note that Fig. 2A is a table consisting of columns and rows. The first column corresponds to all of the locations which are represented in the first physical representation (100). The second column is a logical bit representation of the relationship of customer# vs. location.)*, and wherein associating comprises including the generated logical relationships with respective logical field specifications *(see column 2, lines 50-57; Note that the entry 206 in Fig. 2A indicates which bits have a location of North. In this example bit 2 (202) and bit 6 (204) have a "1" indicating that customer 102 and 106 in the physical representation (100) have a location of North.).*

As to dependent claim 3, Depledge teaches the limitation where the first physical representation of the data is a document in text-based markup language *(see Fig. 1; Note that the table is serving as the document and within the document there are fields which contain text.).*

As to dependent claim 5, Depledge teaches the limitation where the second physical representation is a relational representation *(see Fig. 2A; Note that for each location represented in the first physical representation (100) there is a set of corresponding bits (202 and 204, Fig. 2A) which represent the column "Location" within the first physical representation (100)).*

As to dependent claim 6, Depledge teaches the limitation where each data structure is a table of the relational representation *(see Fig. 1 and 2A and column 2, lines 24-49).*

As to dependent claim 7, Depledge teaches the limitation where the first physical representation is a hierarchical representation *(see Fig. 1 and column 2, lines 24-36)* and the

second physical representation is a relational representation *(see Fig. 2A and column 2, lines 37-49)*.

As to dependent claim 9, Depledge teaches the limitation where each data structure is a table of the relational representation *(see Fig. 1 and 2A and column 2, lines 24-49)*.

As to dependent claim 10, Depledge teaches the limitation of removing any redundant determined corresponding relationships before generating the logical relationships *(see column 8, lines 23-36)*.

As to independent claim 11, Depledge clearly teaches a computer-implemented method of logically representing relationships between data elements *(Rows of data, Fig. 1)* defined according to a first physical representation of data *(100, Fig. 1) (see column 2, lines 24-36; Note that within the Table 100 there are two relationships being defined. First, Customer # is being related to Location. Second, Customer # is being related to Type.)*, comprising: generating a second physical representation of the data *(200, Fig. 2A)* from the first physical representation *(100) (see column 2, lines 50-57; Note that the entry 206 in Fig. 2A indicates which bits have a location of North. In this example bit 2 (202) and bit 6 (204) have a "1" indicating that customer 102 and 106 in the physical representation (100) have a location of North.)*.

Depledge further teaches generating a logical representation of the data *("1" or "0" in 206, Fig. 2A)* as represented according to the second physical representation *(200)*, the logical representation abstractly describing the second physical representation of the data *(200) (see column 2, lines 50-57; Note that the entry 206 in Fig. 2A indicates which bits have a location of North. In this example bit 2 (202) and bit 6 (204) have a "1" indicating that customer 102 and 106 in the physical representation (100) have a location of North.)*.

Depledge further teaches that on the basis of the relationships between the data elements defined according to the first physical representation of the data, determining corresponding relationships between corresponding data structures defined according to the second physical representation of the data *(200) (see Figs. 1 and 2A; Note that a logical relationship is determined based on the data elements located in the first physical relationship (100). The data structures in figures 1 and 2A are tables consisting of rows and columns. The data structure in Figure 2A is defined by the use of bits "1" and "0", which represent the relationship between, in this case, a customer # and a location.)*.

Depledge further teaches generating logical relationships *(202 and 204, Fig. 2A)* abstractly describing the determined corresponding relationships *(200, Fig. 2A) (see column 2, lines 50-57; Note that the entry 206 in Fig. 2A indicates which bits have a location of North. In this example bit 2 (202) and bit 6 (204) have a "1" indicating that customer 102 and 106 in the physical representation (100) have a location of North.)*.

Depledge further teaches including the generated logical relationships with the logical representation *(200, Fig. 2A) (see column 2, lines 50-57; Note that the entry 206 in Fig. 2A indicates which bits have a location of North. In this example bit 2 (202) and bit 6 (204) have a "1" indicating that customer 102 and 106 in the physical representation (100) have a location of North.)*; wherein each of the generated logical relationships describes a path for traversing the second physical representation from a first data structure to a second data structure when processing a query requesting information related to the first and second data structures *(see column 8, lines 47-67 through column 9, lines 1-28)*.

As to dependent claim 12, claim 12 is the same as claim 3 and is rejected for the same reasons as set forth in claim 3 above.

As to dependent claim 14, claim 14 is the same as claim 5 and is rejected for the same reasons as set forth in claim 5 above.

As to dependent claim 15, claim 15 is the same as claim 6 and is rejected for the same reasons as set forth in claim 6 above.

As to dependent claim 16, claim 16 is the same as claim 10 and is rejected for the same reasons as set forth in claim 10 above.

As to independent claim 18, Depledge clearly teaches a computer-implemented method of querying physical data logically represented by a data abstraction model, wherein the physical data being queried is contained in data structures generated from a data source having a different schema from the data structures containing the physical data being queried *(see Fig. 3; Note the use of a query table (300) to represent the query containing physical data (Type = 'Business') and logical data (Bits '1' and '0').)*, comprising: receiving an abstract query comprising logical fields and corresponding values, wherein each of the logical fields is defined in the data abstraction model and wherein one or more of the logical fields are result fields to be returned by execution of the abstract query *(see Fig. 3 and column 3, lines 4-14; Note that a result bits are calculated using high efficient logic.)*.

Depledge further teaches transforming the abstract query into an executable query capable of being executed against the physical data *(see Fig. 1 and 2A and column 3, lines 22-44; Note that once the location was changed, the values were then changed in the physical data using an executable query which flipped the bits representing the new changed values.)*; wherein

the transforming is done using the data abstraction model and wherein the data abstraction model defines a specific path for traversing the data structures containing the physical data to reach the one or more result fields *(see Fig. 3 and column 3, lines 22-44; Note that a bitmap index such as the one showed in Fig 3 (302) is used to map each bit for a given location to the physical data (shown in Fig. 1). The result index (320) represents the bitmap of the physical data as a result of the query terms portrayed in Fig. 3 (i.e TYPE = 'BUSINESS' and LOCATION = 'EAST' or LOCATION = 'SOUTH').)*.

As to claims 19-21, 23-25, and 27-28, claims 19-21, 23-25, and 27-28 are computer-readable medium claims corresponding to method claims 1-3, 5-7, and 9-10, respectively and are rejected for the same reasons as set forth in claims 1-3, 5-7, and 9-10 above. Depledge clearly teaches a computer-readable medium *(407, Fig. 4) (see column 5, lines 23-25)*.

As to claims 29-30 and 32-34, claims 29-30 and 32-34 are computer-readable medium claims corresponding to method claims 11-12 and 14-16, respectively and are rejected for the same reasons as set forth in claims 11-12 and 14-16 above.

As to claim 36, claim 36 is a computer-readable medium claim corresponding to method claim 18 and is rejected for the same reasons as set forth in claim 18 above.

As to dependent claim 37, Depledge clearly teaches the limitation where the specific path is derived from relationships in the data source *(see Fig. 3 and column 3, lines 22-44; Note that a bitmap index such as the one showed in Fig 3 (302) is used to map each bit for a given location to the physical data (shown in Fig. 1). The result index (320) represents the bitmap of the physical data as a result of the query terms portrayed in Fig. 3 (i.e TYPE = 'BUSINESS' and LOCATION = 'EAST' or LOCATION = 'SOUTH').)*.

As to claim 38, claim 38 is a computer-readable medium claim corresponding to method claim 3 and is rejected for the same reasons as set forth in claim 3 above.

As to dependent claim 40, Depledge clearly teaches the limitation where the data structures containing the physical data being queried are arranged according to a relational schema *(see Fig. 2A; Note that for each location represented in the first physical representation (100) there is a set of corresponding bits (202 and 204, Fig. 2A) which represent the column "Location" within the first physical representation (100))*.

As to dependent claim 41, Depledge clearly teaches the limitation where each data structure containing physical data being queried is a database table according to the relational schema *(see Fig. 1 and 2A and column 2, lines 24-49)*.

As to dependent claim 42, Depledge clearly teaches the limitation where the data source is arranged according to a hierarchical representation *(see Fig. 1 and column 2, lines 24-36)* and the data structures containing the physical data being queried define a relational representation *(see Fig. 2A and column 2, lines 37-49)*.

As to independent claim 44, Depledge clearly teaches a data structure residing in memory *(see column 2, lines 24-36 and column 5, lines 8-25)*, comprising: a plurality of logical field specifications *(see Fig. 2A; Note that Fig. 2A is a table consisting of columns and rows. The first column corresponds to all of the locations which are represented in the first physical representation (100). The second column is a logical bit representation of the relationship of customer# vs. location.)*, each abstractly describing at least one of a plurality of data structures defined according to a physical representation of data *(100) (see column 2, lines 50-57; Note that the entry 206 in Fig. 2A indicates which bits have a location of North. In this example bit 2*

(202) and bit 6 (204) have a "1" indicating that customer 102 and 106 in the physical representation (100) have a location of North.), wherein at least one of the plurality of logical field specifications includes one or more logical relationships algorithmically generated from relationship information describing relationships between the data represented according to another physical representation of the data *(see column 2, lines 50-57; Note that the entry 206 in Fig. 2A indicates which bits have a location of North. In this example bit 2 (202) and bit 6 (204) have a "1" indicating that customer 102 and 106 in the physical representation (100) have a location of North.)*, each logical relationship describing a path for traversing the physical representation of the data from a first data structure to a second data structure when processing a query requesting information related to the first and second data structures *(200) (see Figs. 1 and 2A; Note that a logical relationship is determined based on the data elements located in the first physical relationship (100). The data structures in figures 1 and 2A are tables consisting of rows and columns. The data structure in Figure 2A is defined by the use of bits "1" and "0", which represent the relationship between, in this case, a customer # and a location.)*.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 4, 8, 13, 17, 22, 26, 31, 35, 39, and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Depledge in view of Murthy et al (U.S. 2004/0220927 A1).

As to dependent claim 4, note the discussion of claim 3 above, Depledge discloses all of the limitations of claim 3 but fails to explicitly teach the text-based markup language is one of the eXtended Markup Language (XML) and the MicroArray Gene Expression Markup Language (MAGE-ML). However, Murthy clearly teaches the text-based markup language is one of the eXtended Markup Language (XML) and the MicroArray Gene Expression Markup Language (MAGE-ML) *(see para [0031])*. It would have been obvious to one of ordinary skill in the art at the time of the invention, having the teachings of Depledge and Murthy before him/her to substitute the document in text-based markup language *(data table (100, Fig. 1))* as taught by Depledge with the XML document as taught by Murthy. The skilled artisan would have been motivated to substitute the document in text-based markup language *(data table (100, Fig. 1))* as taught by Depledge with the XML document as taught by Murthy for the purpose of incorporating World Wide Web/HTML driven databases *(see para [0003])*.

As to dependent claim 8, note the discussion of claim 7 above, Depledge discloses all of the limitations of claim 7 but fails to explicitly teach the hierarchical representation is the eXtended Markup Language (XML). However, Murthy clearly teaches the hierarchical representation is the eXtended Markup Language (XML) *(see para [0031])*. It would have been obvious to one of ordinary skill in the art at the time of the invention, having the teachings of Depledge and Murthy before him/her to substitute the hierarchical data table *(100, Fig. 1)* as taught by Depledge with the XML document as taught by Murthy. The skilled artisan would have been motivated to substitute the hierarchical data table *(100, Fig. 1)* as taught by Depledge with the XML document as taught by Murthy for the purpose of incorporating World Wide Web/HTML driven databases *(see para [0003])*.

As to dependent claim 13, claim 13 is the same as claim 4 and is rejected for the same reasons as set forth in claim 4 above.

As to independent claim 17, Depledge clearly teaches a computer-implemented method of logically representing relationships between data elements described in a text-based document *(see Depledge column 2, lines 24-36; Note that within the Table 100 there are two relationships being defined. First, Customer # is being related to Location. Second, Customer # is being related to Type.)*, comprising: retrieving a relational database schema for a plurality of data structures, each data structure corresponding to one of the data elements *(see Figs. 1 and 2A; Note that data table 200 conatains data elements (i.e. 206) that consist of bitindex maps of the data table 100. These bitindex maps allow the system to recognize the relationships between data table customer # and location.)*; retrieving a logical representation abstractly describing the relational database schema *(see column 2, lines 50-57; Note that the entry 206 in Fig. 2A indicates which bits have a location of North. In this example bit 2 (202) and bit 6 (204) have a "1" indicating that customer 102 and 106 in the physical representation (100) have a location of North.)*.

Depledge further teaches determining the relationships between the data elements from the text-based document *(see Figs. 1 and 2A; Note that data table 200 conatains data elements (i.e. 206) that consist of bitindex maps of the data table 100. These bitindex maps allow the system to recognize the relationships between data table customer # and location.)*; on the basis of the determined relationships, determining corresponding relationships between corresponding data structures defined according to the relational database schema *(see Figs. 1 and 2A; Note that a logical relationship is determined based on the data elements located in the first physical*

relationship (100). The data structures in figures 1 and 2A are tables consisting of rows and columns. The data structure in Figure 2A is defined by the use of bits "1" and "0", which represent the relationship between, in this case, a customer # and a location.).

Depledge further teaches generating logical relationships abstractly describing the determined corresponding relationships; and including the generated logical relationships with the logical representation *(see column 2, lines 50-57; Note that the entry 206 in Fig. 2A indicates which bits have a location of North. In this example bit 2 (202) and bit 6 (204) have a "1" indicating that customer 102 and 106 in the physical representation (100) have a location of North.)*; wherein each of the generated logical relationships describes a path for traversing a relational database constructed according to the relational database schema from a first data structure to a second data structure when processing a query requesting information related to the first and second data structures *(see Fig. 3 and column 3, lines 22-44; Note that a bitmap index such as the one showed in Fig 3 (302) is used to map each bit for a given location to the physical data (shown in Fig. 1). The result index (320) represents the bitmap of the physical data as a result of the query terms portrayed in Fig. 3 (i.e TYPE = 'BUSINESS' and LOCATION = 'EAST' or LOCATION = 'SOUTH').).*

Depledge does not explicitly disclose the use of a XML document instead of the text-based document. However, Murthy clearly teaches retaining hierarchical information from XML documents rather than text-based documents. It would have been obvious to one of ordinary skill in the art at the time of the invention, having the teachings of Depledge and Murthy before him/her to substitute the document in text-based markup language *(data table (100, Fig. 1))* as taught by Depledge with the XML document as taught by Murthy. The skilled artisan would

have been motivated to substitute the document in text-based markup language *(data table (100, Fig. 1))* as taught by Depledge with the XML document as taught by Murthy for the purpose of incorporating World Wide Web/HTML driven databases *(see para [0003])*.

As to dependent claim 22, claim 22 is a computer-readable medium claim corresponding to method claim 4 and is rejected for the same reasons as set forth in claim 4 above.

As to dependent claim 26, claim 26 is a computer-readable medium claim corresponding to method claim 8 and is rejected for the same reasons as set forth in claim 8 above.

As to dependent claim 31, claim 31 is a computer-readable medium claim corresponding to method claim 4 and is rejected for the same reasons as set forth in claim 4 above.

As to independent claim 35, claim 35 is a computer-readable medium claim corresponding to method claim 17 and is rejected for the same reasons as set forth in claim 17 above.

As to dependent claim 39, claim 39 is a computer-readable medium claim corresponding to method claim 4 and is rejected for the same reasons as set forth in claim 4 above.

As to dependent claim 43, claim 43 is a computer-readable medium claim corresponding to method claim 8 and is rejected for the same reasons as set forth in claim 8 above.

(10) Response to Argument

Rejections under 35 U.S.C. 102:

Appellants' arguments regarding claims 1-3, 5-7, 9-12, 14-16, 18-21, 23-25, 27-30, 32-34, 36-38, 40-42, and 44 appear on pages 16-22 of the brief.

Appellant's first argument is that Depledge does not disclose a method of logically representing relationships between data elements that includes the act of "providing a logical representation of the data, the logical representation abstractly describing a second physical representation of the data, wherein the second physical representation of the data is generated from the first physical representation of the data," as recited in claim 1. Independent claim 11 includes a similar limitation. The argument is not correct.

Depledge clearly provides a logical representation of the data *(see Figure 2A; Note that the "Bitmap" column logically represents the data in that each bit logically corresponds to the "customer#" column in Figure 1.)*, the logical representation abstractly describes a second physical representation of the data *(see Figure 2A; Note that the "Key" column is a second representation in that it corresponds to all of the possible values for location as shown in Figure 1 under the "Location" column. The "Bitmap" column logically describes the "Key" column by identifying which customer#s correspond to a given location. The second physical representation may not be apparent in Figure 2A, but Examiner contests that Depledge in order to create the bitmap index of Figure 2A, that the relationship of Key column to 'LOCATION' is stored within a location in storage. Depledge further supports this by disclosing that differential entries are generated and stored within bitmapped indexes (see column 6, line 59 through column 7, line 20). So the logical representation clearly contains an intermediate physical representation which constitutes the second physical representation as claimed by Applicant.)*, wherein the second physical representation of the data is generated from the first physical representation of the data *(see column 6, line 59 through column 7, line 20; Depledge generates*

the second physical representation (i.e. differential entities stored in bitmapped indexes) when a change is made to the first physical representation (i.e. data table 500, Figure 1).).

Applicants respectfully disagree with the Examiner's use of two columns of the bitmapped index 200 as analogous to the "logical representation" and the "second physical representation," which are claimed as distinct elements. Applicants submit that the Bitmap and Key columns are inteqral parts of the bitmapped index 200 (Depledge Fig. 2), and cannot be properly considered to constitute two different representations of the same data. For example, the Bitmap column, if isolated from the Key column, has no discemable meaning whatsoever, and does not "represent" anything.

The second physical representation is distinct from the logical representation in that the differential entries stored in the bitmapped index are stored completely separate in storage and are used to update the logical bitmap representation. Therefore, both representations are two totally different/distinct relationships.

Appellant also argues that Depledge does not disclose on the basis of the relationships between the data elements defined according to the first physical representation of the data, determining corresponding relationships between corresponding data structures defined accordinq to the second physical representation of the data. This argument is not correct.

Depledge teaches on the basis of the relationships between the data elements *(Rows of data, Fig. 1)* defined according to the first physical representation of the data *(Figure 1, 100)*, determining corresponding relationships between corresponding data structures defined according to the second physical representation of the data *(200) (see Figs. 1 and 2A; Note that a logical relationship is determined based on the data elements located in the first physical*

relationship (100). The data structures in figures 1 and 2A are tables consisting of rows and columns. The data structure in Figure 2A is defined by the use of bits "1" and "0", which represent the relationship between, in this case, a customer # and a location. Depledge discloses that differential entries are generated and stored within bitmapped indexes (see column 6, line 59 through column 7, line 20). So the logical representation clearly contains an intermediate physical representation which constitutes the second physical representation as claimed by Applicant. Therefore, supporting that the second representation is physically stored not just a logical representation derived. Depledge generates the second physical representation (i.e. differential entities stored in bitmapped indexes) when a change is made to the first physical representation (i.e. data table 500, Figure 1).).

The second physical representation is distinct from the logical representation in that the differential entries stored in the bitmapped index are stored completely separate in storage and are used to update the logical bitmap representation. Therefore, both representations are two totally different/distinct relationships.

Appellant also argues that Depledge does not disclose generating logical relationships abstractly describing the determined corresponding relationships, each logical relationship defining a path between data structures of the second physical representation.

Depledge teaches generating logical relationships abstractly describing the determined corresponding relationships, each logical relationship defining a path between data structures of the second physical representation *(see Figure 1 and 2A; Note that "Bitmap" column describes a "path" in that each bit corresponds to a customer for a given Location. For example, NORTH would follow the logical path of "0 1 0 0 0 1" in order to determine which customer has a*

location of NORTH, and so on. Depledge discloses that differential entries are generated and stored within bitmapped indexes (see column 6, line 59 through column 7, line 20). So the logical representation clearly contains an intermediate physical representation which constitutes the second physical representation as claimed by Applicant. Therefore, supporting that the second representation is physically stored not just a logical representation derived. Depledge generates the second physical representation (i.e. differential entities stored in bitmapped indexes) when a change is made to the first physical representation (i.e. data table 500, Figure 1).).

A "Path" given its broadest interpretation in the art is a route through a structured collection of information. Examiner would like to make note that Depledge meets this interpretation in that the "Bitmap" column supplies bits, which define a route in order for a system to logically navigate to the customers which have a location of NORTH. It then uses this path to update the logical bitmap index to reflect changes made to the physically stored second representation of the first representation of changes or data.

Appellant then argues that claims 18 and 36 require the limitation of receiving an abstract query comprising logical fields and corresponding values, wherein each of the logical fields is defined in the data abstraction model," and "transforming, by operation of a processor, the abstract query into an executable query capable of being executed against the physical data, which is not taught by Depledge. This argument is not correct.

Depledge teaches receiving an abstract query comprising logical fields and corresponding values, wherein each of the logical fields is defined in the data abstraction model and wherein one or more of the logical fields are result fields to be returned by execution of the abstract query

(see Fig. 3 and column 3, lines 4-14; Note that Depledge discloses/shows a query comprising logical fields with values that when executed returns a logical result. Note that a result bits are calculated using high efficient logic.).

Depledge further teaches transforming the abstract query into an executable query capable of being executed against the physical data *(see Fig. 3 and column 3, lines 22-44; Note that in figure 3 was an abstract query at some point and is now being shown as the executed query portraying the results in a logical manner. Also note that once the location was changed, the values were then changed in the physical data using an executable query which flipped the bits representing the new changed values.).*

Examiner would also like to make mention of the use of the phrase "capable of". This language holds no patentable weight because it does not require the executable query to be executed against the physical data.

Appellants' arguments regarding claims 4, 8, 13, 17, 22, 26, 31, 35, 39, and 43 appear on page 22 of the brief.

Appellant argues that claims 4, 8, 13, 17, 22, 26, 31, 35, 39, and 43 depend, directly or indirectly, on claims that are believed to be allowable, reasons discussed above. Therefore, the present rejection does not establish a *prima facie* case of obviousness at least because the rejection does not teach or suggest all the claim limitations. This argument is not correct because Examiner has supplied sufficient reasons above as to why the parent claims are taught/suggested by the prior art.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Jared Bibbee
Patent Examiner
Art Unit 2161

Conferees:

Hosain Alam, SPE Art Unit 2166

Mohammad Ali, SPE Art Unit 2169

Appeal conference held December 17, 2007

Agreement to proceed on appeal